

## REPORT ON FARM LABOR STUDIES 1/

In November 1947, a request was made for information concerning studies recently made or under way in the general field of farm labor. This report is based on replies received from 32 States in response to this request, and on an earlier summary made of the publications available from work simplification studies.

The report is obviously not complete. It will serve to indicate the type of studies being made. The results in many cases are not yet available, but it should be helpful as a source of reference to anyone planning to conduct similar studies in the field of farm labor.

### I. Studies Recently Made or Under Way

#### A. Migratory Labor

##### Arizona

- Housing in the Eloy Area for the Migratory Labor.
- Labor Contract Systems in the Eloy Area.
- Relationship of Need for Harvest Labor to the Movement of Migratory Labor in the Eloy Area.
- Study of Migratory Laborers' Thinking.
- Yuma Labor Facilities in 1947.

By A. B. Pallantyne, Department of Agricultural Economics, University of Arizona, Tucson, Ariz. Reported in 1947 annual report of Extension Service - Rural Sociologist.

##### Colorado

- Migratory Labor Housing in Morgan County.

By P. E. Gifford, Farm Job Analyst, Division of Agricultural Engineering, BPISAE, located at Colorado A & M College, Fort Collins, Colo. Proposed publication available in manuscript form only.

##### Indiana

- The Movement, Utilization, and Housing of Migrant Agricultural Workers in Indiana.

By J. Z. Rowe, Department of Agricultural Economics, Purdue University. Available in thesis form. To be published in 1948.

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1/ Prepared by T. G. Hornung and L. M. Vaughan, Labor Utilization Division, Extension Farm Labor Program, U. S. Department of Agriculture, Washington, D. C.

### New York

- Migrant Farm Labor Housing. Keith Gallagher.
  - Housing and Employing Migratory Farm Workers. Jerome K. Pasto.
  - Business Management Suggestions for Farm Labor Associations. A. E. 580.
  - Association Management of Camps for Migratory Farm Workers, 1947.
- 778 (7-47).

Available from Extension Service, Cornell University, Ithaca, N. Y.

### B. Employer-Employee Relations

#### California

- Cooperation in the Provision of Full-Time Employment of Agricultural Labor.
- Wage Systems for Citrus Workers.
- Wage Systems of Packing House Employees Working Within Packing Houses.

By Roy J. Smith, Giannini Foundation of Agricultural Economics, University of California, Berkeley, Calif. Results available in various professional journals and citrus publications.

#### Indiana

- Working Agreements and Characteristics of the Farm Labor Force in Tipton County, Ind., 1947.

By John Riggs, Department of Agricultural Economics, Purdue University.  
Available in thesis form.

#### Minnesota

- Farm Wage Agreements.

By J. B. McNulty, Extension Service, University Farm, St. Paul, Minn.  
Publication planned in 1948.

#### New York

- Farm Labor Wages in New York. T. N. Hurd and Dale A. Knight. A. E. 577. July 1947.
- Farmer-Worker Relationships in Northern Rensselaer County. T. N. Hurd and C. Herman Welch, Jr. A. E. 588. July 1947.
- Farm Accident and Insurance Survey in Township of Groton, 1946. A. E. 581.
- Old Age Problems of Farm People in Township of Dryden. Publication planned in 1948.

Available from Department of Agricultural Economics, Cornell University, Ithaca, N. Y.

South Carolina

- Landlord-Tenant Relationships With Special Emphasis on Agreements for Mechanized Farms.

Study under way by G. H. Bonnette, Clemson Agricultural College, Clemson, S. Car.

## C. Composition of Farm Labor Force

Idaho

- Production Requirements and Yields of Major Crops and Livestock on Representative Soil Types in 3 Major Areas.

Preliminary report published in September 1947 by Ronald C. Bevan, Department of Agricultural Economics, University of Idaho, Moscow, Idaho.

Illinois

- General Farm Labor Survey - Study of the Composition of Total and Hired Farm Labor Force for Master Sample of Farms.

Available as Master's thesis by A. J. Cross. Planning to print as a station bulletin in 1948.

Indiana

- An Economic Study of Farm Labor in Indiana - Farm Labor Force and Its Utilization in 2 Counties. Expt. Sta. Bul. 478. B. R. Bookhout. 1942.
- Changes in Farm Labor Utilization in a Good Agricultural Area in Central Indiana From 1910 to 1945. Robert W. Schoeff and Lynn S. Robertson. Expt. Sta. Bul. 524. 1947.
- Variations in Labor Requirements and Practices in Producing Major Farm Crops in Northern Indiana. T. J. Whatley.
- A Comparative Analysis of Labor Requirements, Costs, and Returns of Producing Pork With the One-Litter and Two-Litter System. Study under way by L. S. Hardin, Harold S. Wann, and Richard N. Weigle.

Available from Department of Agricultural Economics, Purdue University, W. Lafayette, Ind.

New Hampshire

- Study of Utilization of Farm Labor, Living Conditions, and Attitudes of Workers.

Work under way by N. F. Whippen. Results ready for distribution in 1948.

## D. Labor Utilization

### Indiana

- Farmstead Problems - Study of Labor and Other Problems Involving Time and Distance Information for Daily Chores. L. S. Robertson and others. Mimeographed report planned in 1948.
- The Influence of Buildings, Equipment, and Work Methods on the Effectiveness of Labor Utilization With Selected Livestock Enterprises. Thesis study by F. H. Lacy. Circular or multilithed report planned in 1948.
- The Labor and Cost Economy of Silos.
- More Eggs With Less Time and Less Labor.

Studies under way by Department of Agricultural Economics, Purdue University, W. Lafayette, Ind.

### Mississippi

- Utilization studies and analysis on:
  1. Six dairy farms.
  2. Ten hog farms.
  3. Nine poultry farms.

By F. M. Smith, Mississippi State College. Reported in the 1947 annual farm labor report.

### Montana

- Farm Labor Practices and Conditions During World War II as Factors in Postwar Farm Labor Employment Problems.

Master's thesis by Dexter H. Voser, Department of Agricultural Economics, Montana State College, Bozeman, Mont.

- Factors Affecting Efficiency in the Production of Sugar Beets and Competing Crops.

By H. L. Stewart and D. C. Myrick, B. A. E., and R. E. Huffman, Montana State College, Bozeman. Bulletin planned in 1949.

### New Jersey

- Efficiency Study of Dairy Chores, 25 Burlington County Farms.

By J. C. Taylor and Frank O. Peck, Extension Service. Progress report expected in 1948.

### New York

- Labor and Equipment Costs on Dairy Farms.
- Costs of Spraying Apples - Study of Methods and Equipment.
- Dressing Chickens on New York Farms.
- Marketing Eggs Through Wholesale Buyers and Country Dealers.
- Time and Travel Studies on 25 Poultry Farms.
- Mow Hay Curing vs. Field Curing.
- Dairy Barn Arrangement.

Work simplification studies under way by Department of Agricultural Economics, Cornell University, Ithaca, N. Y.

### Ohio

- Daily Work Performed by Various Types of Machinery.

Study under way by R. H. Baker, Rural Economics Department, Ohio State University. Publication planned in 1948.

- Labor Saving in Dairy Livestock Chores.

Study to be made in 1948 by R. H. Baker and R. A. Bailey, Rural Economics Department.

### South Carolina

- Studies of labor accomplishment and work methods:
  1. Harvesting, grading, and packing of peaches. H. S. Berry.
  2. Harvesting, curing, and marketing of tobacco. W. D. Wood.
  3. Harvesting, grading, and marketing of Irish potatoes. P. D. Seabrook.

Work completed in 1947 - unpublished reports available in 1948.  
Extension Service, Clemson Agricultural College, Clemson, S. Car.

## II. Reports of Farm Work Simplification Studies (Based on Time, Motion, and Travel Analysis)

### Apples

Zuroske, C. H. Progress report of labor simplification in harvesting of Washington apples. Proc. Washington State Horticultural Assn. Dec. 1943. pp. 136-139. A statement of the methods used and results obtained in a time and motion study of apple pickers.

Zuroske, C. H. Shortcuts in apple harvest. Proc. Washington State Horticultural Assn. Dec. 1945. pp. 185-190. A report on the savings that can be made in picking and hauling apples.

### Celery

Brunk, Max E. Celery harvesting methods in Florida. Fla. Agr. Expt. Sta. Bul. 404, 32 pp. Gainesville, 1944. Report on detailed study made of nine organizations that harvest and pack celery.

### Cotton

Sasuly, Richard. Labor saving on southwestern cotton farms. U. S. Dept. Agr. Ext. Serv. Mimeog. 1527-43, 7 pp. Washington, D. C., 1943. A study of hand cotton picking methods used in New Mexico.

### Dairy

Bookhout, B. R. Reducing chore labor on dairy farms. Mich. Agr. Expt. Sta. Quarterly Bul., v. 30, no. 1, pp. 15-20. Aug. 1947. Report of results obtained in a study on 10 dairy farms.

Brundage, Kenneth. Efficient milk rooms. Univ. Conn. Ext. Mimeog., 5pp. Apr. 1947. Report on motion and time study made of milk rooms on 25 dairy farms.

Carter, R. M. Labor saving through farm job analysis. I. Dairy barn chores. Vt. Agr. Expt. Sta. Bul. 503. 66 pp. Burlington, 1943. Reprinted in 1946. A detailed report on accomplishments made on one Vermont farm in saving labor.

Carter, R. M. Save work in feeding cows. Vt. Agr. Col. Ext. Brieflet 687. Burlington, 1943. Contains labor-saving ideas and principles involved in feeding and watering dairy cows.

Collins, Walter M. Saving minutes in the dairy barn. Conn. Agr. Col. Ext. Mimeog. /unnumb./, 20 pp. Sept. 1946. Report on methods of saving time and labor in doing dairy chores on 25 dairy farms.

Engene, S. A. Reducing labor costs in dairying. Minn. Agr. Expt. Sta. Farm and Home Science. Oct. 1944.

Engene, S. A. Saving labor in milking. Minn. Univ. Agr. Ext. Farm Business Notes. Oct. 1944. A preliminary analysis of "before" and "after" time requirements for machine milking on six dairy farms.

Engene, S. A., and Dose, V. G. Saving steps in dairy feeding. Minn. Farm Business Notes, no. 266, pp. 2-3. Feb. 1945. An analysis of travel used in feeding dairy cows on a group of dairy farms.

Engene, S. A., and Dose, V. G. Saving seconds. Minnesota Farm Business Notes, no. 269, p. 3. May 1945. A comparison of "before" and "after" chore time and travel with changes effecting largest savings for one Minnesota dairy farmer.

Hoff, Paul R. Simplification in dairy production. Agricultural Engineering, Apr. 1947, p. 159. Progress report in which three factors are stressed: "(1) arrangement of stable and the location of milk houses, (2) the use of labor-saving equipment, and (3) developing a work routine."

Holmes, John C. Efficient dairy chore practices. Part 1. Chore travel in dairy barns. N. H. Agr. Expt. Sta. Cir. 72. Durham, 1946. Contains mathematical formulas for determining chore travel with different barn arrangements.

Williams, Sheldon W. Labor usage in milking. Vt. Agr. Expt. Sta. Bul. 517. Burlington, 1944. A report on a study of milking machine operations on 79 farms.

Zuroske, C. H. Dairy chore efficiency. Timely Economic Information, no. 54, Sept. 1946, pp. 18-24. Washington State Col., Pullman. Results of a study of milking time by types of barns on 37 farms in central and western Washington.

### Hay

Bierly, Ivan R. Progress report of time studies of different methods of harvesting hay. N. Y. Agr. Col. (Cornell) mimeog. A. E. 498. 25 pp. Ithaca, 1945.

Bierly, Ivan R., and Hoff, Paul R. The buck rake saves time and effort in the hay field. N. Y. Agr. Col. (Cornell) leaflet /unnumb./, 4 pp. Ithaca, 1944. A summary of a time study and details on buck rake construction.

Bookhout, B. R. Haymaking in Michigan. Mich. State Col. Ext. Serv. Mich. Farm Economics, no. 48, Dec. 1946. Report on hay harvesting methods observed on 30 farms.

Carter, Robert M. Hay harvesting. Vt. Agr. Expt. Sta. Bul. 531. 52 pp. Burlington, 1946. Direct time observations on the use of labor and equipment as used on 140 farms are reported in this bulletin.

Carter, Robert M. Save work in haying. Vt. Agr. Col. Ext. Brieflet 745. May 1946. Contains suggestions for making haying easier.

### Hogs

Hardin, Lowell S., and Schwab, John. Simplifying hog chores. Purdue Agr. Ext. Leaflet 274, 24 pp. Lafayette, 1946. Different systems and methods of feeding, watering, and housing are suggested, together with advantages and disadvantages of each.

Oberholtzer, J. W., and Hardin, L. S. Simplifying the work and management of hog production. Ind. Agr. Expt. Sta. Bul. 506, 29 pp. Lafayette, 1945. A report of a detailed motion and time study made on five farms.

### Potatoes

Paschal, J. L., Lane, George H., and Kreutzer, W. A. The double-edged stationary potato cutting knife. Colo. Agr. Expt. Sta. Bul. 493, 11 pp. Fort Collins, 1946. A report on the development of a cutting knife based on field observations and micromotion analysis of cutting methods.

### Poultry

Pierly, I. R. Steps take time in caring for hens. N. Y. Agr. Col. (Cornell) A. E. 522. Ithaca, 1945.

Hurd, L. M. Save labor in doing poultry chores. N. Y. Agr. Col. (Cornell) Ext. Poultry Farm Service Letter. Nov. 6, 1946. Summary of labor-saving study made on eight poultry farms.

Hurd, L. M., and Bierly, Ivan R. Saving steps and time in caring for hens. Poultry Science, v. XXVI, no. 1, pp. 25-29. January 1947. Results of a motion time study made on eight poultry farms.

Hurd, L. M., and Bierly, Ivan R. Steps take time in watering hens. N. Y. Agr. Col. (Cornell) Ext. Poultry Farm Service Letter. June 2, 1945. Description of methods used on nine farms.

Piper, Edward H. Chore practices on New Hampshire commercial poultry farms. N. H. Agr. Expt. Sta. Cir. 73. Durham, 1946.

Wilhelm, L. A. More eggs with less time and less labor. Purdue Univ. Agr. Expt. Sta. Pub. /unnumb./. Lafayette, 1945.

### Tobacco

The following "Easier Ways To Do Farm Work" series of leaflets on tobacco are based on motion and time studies made of farmers recognized as particularly good at the respective jobs:

Byers, George B. Preparing housed burley tobacco for market. Ky. Agr. Col. Ext. Leaflet 103. Lexington, 1946.

Byers, George B., Nesius, Ernest J., and Young, Earl R. Taking down, bulking, stripping, and pressing burley tobacco. Ky. Agr. Col. Ext. Leaflet 86. Lexington, 1944.

Byers, George B., Nesius, Ernest J., and Young, Earl R. Stripping burley tobacco. Ky. Agr. Col. Ext. Leaflet 84. Lexington, 1944.

Byers, George B., and Young, Earl R. How to save time in pulling tobacco plants. Ky. Agr. Col. Ext. Leaflet 90. Lexington, 1945.

Byers, George B., Young, Earl R., and Nesius, Ernest J. Machine setting of burley tobacco. Ky. Agr. Col. Ext. Leaflet 75. Lexington, 1944.

Byers, George B., Young, Earl R., and Nesius, Ernest J. Pulling tobacco plants. Ky. Agr. Col. Ext. Leaflet 73. Lexington, 1944.

Byers, George B., Young, Earl R., and Pinney, Paul M. How to save time in priming burley tobacco. Ky. Agr. Col. Ext. Leaflet 92. Lexington, 1945.

Nesius, Ernest J., Young, Earl R., and Byers, George B. Cutting and spearing burley tobacco. Ky. Agr. Col. Ext. Leaflet 76. Lexington, 1944.

Nesius, Ernest J., Young, Earl R., and Byers, George B. Cutting and housing burley tobacco. Ky. Agr. Col. Ext. Leaflet 79. Lexington 1944.  
Revised 1945.

#### Tomatoes

Havercamp, Leonard John. Utilization of labor in Indiana tomato canning factories. Ph. D. thesis, Purdue Univ. (typewritten), Lafayette, Ind., June 1947. Methods used and results of motion and time studies made of 30 canning factories.

Oberholtzer, John W. Making movements count in picking tomatoes. Purdue Agr. Ext. Leaflet 258. Lafayette, Ind., 1944. Four rules based upon motion analysis are illustrated.

Mundel, M. E., Luley, W. E., and Fraser, Roscoe. An easy way to peel canning tomatoes. Purdue Agr. Ext. Misc. Pub. 23. Lafayette, Ind., 1943. A nine-step method developed from micromotion analysis.

